

REMARKS

By this Amendment, claims 4-7 and 9-49 are cancelled, and claims 1-3 and 8 are amended. Thus, claims 1-3 and 8 are active in the application. Reexamination and reconsideration of the application are respectfully requested.

The specification and abstract have been carefully reviewed and revised in order to correct grammatical and idiomatic errors in order to aid the Examiner in further consideration of the application. The amendments to the specification and abstract are incorporated in the attached substitute specification and abstract. No new matter has been added.

Also attached hereto is a marked-up version of the substitute specification and abstract illustrating the changes made to the original specification and abstract.

In item 6 on page 2 of the Office Action, claims 1-3 and 8 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention. In particular, on pages 2-3 of the Office Action, the Examiner identified various limitations which lack proper antecedent basis.

Claims 1-3 and 8 have each been amended in order to provide proper antecedent basis for each recited limitation. Accordingly, the Applicants respectfully submit that claims 1-3 and 8, as amended, are clearly definite and particularly point out and distinctly claim the subject matter which the Applicants regard as the invention. Therefore, the Applicants respectfully request the Examiner to withdraw the rejection of claims 1-3 and 8 under 35 U.S.C. § 112, second paragraph.

The Applicants thank the Examiner for kindly indicating, in item 9 on page 4 of the Office Action, that claims 1-3 would be allowable if rewritten to overcome their rejection under 35 U.S.C. § 112, second paragraph.

Having amended claims 1-3 in order to overcome their rejection under 35 U.S.C. § 112, second paragraph, the Applicants respectfully submit that claims 1-3 are now clearly in condition for allowance.

In item 8 on page 3 of the Office Action, claim 8 was rejected under 35 U.S.C. § 102(e) as being anticipated by Nomizu (U.S. 6,301,391). Without intending to acquiesce to this rejection, claim 8 has been amended in order to more clearly illustrate the marked

differences between the present invention and the applied reference. Accordingly, the Applicants respectfully submit that claim 8 is clearly patentable over Nomizu for the following reasons.

The present invention, as recited in claim 8, provides an image coding apparatus for coding image data of a target image to be coded based on image data of a predictive image which is similar to the target image. As recited in claim 8, the image coding apparatus includes predictive image generation means for generating image data of the predictive image which is similar to the target image and which includes a feature of the target image based on image feature data indicating the feature of the target image.

Accordingly, the image coding apparatus of claim 8 provides that the predictive image of the target image includes the feature of the target image, where the feature of the target is generated by the predictive image generation means based on image feature data of the target image. Accordingly, by generating a predictive image which includes the feature of the target image, the efficiency of coding is improved.

For instance, as described in lines 3-10 on page 87 of the original specification (lines 14-21 on page 66 of the substitute specification), the image coding apparatus includes an image feature extraction means 402 which extracts character data Dc from a target image, and a predictive image generation means 404 which outputs predictive character image data PDc based on character codes which are included in the character data Dc. The specification describes the image feature extraction means 402 and the predictive image generation means 404 as being identical to the image feature extraction means 202 and the predictive image generation means 204 of the second embodiment, respectively (see lines 17-20 on page 87 of the original specification and lines 28-31 on page 66 of the substitute specification).

As described in lines 8-15 on page 76 of the original specification (lines 2-9 on page 58 of the substitute specification), the image feature extraction means 202 is a character recognition apparatus which performs character recognition by a general method which is used by optical character recognition (OCR) or the like, and the image feature extraction means 202, similar to the image feature extraction means 402, extracts the character data Dc from the target image (document image). The character data Dc includes character codes (image features) corresponding to the respective character

images in a character sequence in the document image, and auxiliary information indicating the positions and sizes of the respective characters in the document image.

The predictive image generation means 204, 404 then generates the predictive image PD_c which is similar to the target image and which includes a feature of the target image based on image feature data (i.e., character codes which are included in the extracted character data D_c) indicating the feature of the target image, and the target image is coded based on the predictive image PD_c.

Nomizu discloses a coding apparatus in which an identical-image coding portion obtains a code for a currently processed block area of image information as a result of coding an index indicating an identical block area of image information, when a similar-image determining portion determines that a similar block area of information is the identical block area of image information (see Column 2, lines 40-59). Thus, Nomizu and the image coding apparatus of claim 8 are somewhat related in that, when coding an image in the currently processed small block area (a target image), an image which is similar to the target image is used.

However, as described above, and as recited in claim 8, a predictive image which is used in coding the target image is generated based on image feature data indicating the feature of the target image, and the predictive image includes the feature of the target image. Accordingly, the present invention and Nomizu are clearly different in structure and effect.

In particular, as described in Column 8, lines 1-36 of Nomizu, the image area is divided by an image-area dividing portion 201, and the divided small block areas are stored in an area-image-information storing portion 202. When coding is actually performed, a small block area which is similar to the currently processed small block is selected from the area-image-information storage portion 202 by a similar-image selecting portion 203, and the currently processed small block (image) is coded by using the selected similar small block area (i.e., the stored image which is similar to the currently processed small block image).

However, claim 8 recites that the predictive image generation means generates, not selects, image data of the predictive image which is similar to the target image and which includes a feature of the target image based on image feature data indicating the

feature of the target image. The similar image in the present invention is an image reflecting the characteristics of the target image.

Furthermore, the efficiency of coding based on the similar image is influenced by the quality of the similar image. In Nomizu, the similar image may not be appropriately selected for a small block which has never been coded before. Even when a similar image is believed to have been selected successfully in Nomizu, the similar image and the target image are not guaranteed to have exactly the same contents. For example, although an image including “ ξ ” and an image “ ζ ” are similar to each other, these are images of different contents. As a result, the efficiency of the coding of Nomizu may level off.

However, in the invention of claim 8, a predictive image (similar image) is generated based on obtained character data, and therefore, the problem of Nomizu where a similar image cannot be selected or cannot be selected accurately is obviated. Further, in the invention of claim 8, because a predictive image is generated by using character data indicating the features of the target image, it is possible to generate a predictive image which is more similar to the target image, thereby enabling an improvement in the coding efficiency.

For the reasons given above, Nomizu clearly does not disclose or suggest predictive image generation means for generating image data of the predictive image which is similar to the target image and which includes a feature of the target image based on image feature data indicating the feature of the target image, as recited in claim 8. Accordingly, claim 8 is clearly not anticipated by Nomizu since Nomizu fails to disclose each and every limitation of claim 8.

Therefore, claim 8 is clearly patentable over Nomizu.

Furthermore, it is submitted that the clear distinctions discussed above are such that a person having ordinary skill in the art at the time the invention was made would not have been motivated to modify Nomizu in such as manner as to result in, or otherwise render obvious, the present invention as recited in claim 8. Therefore, it is submitted that the claim 8 is clearly allowable over the prior art as applied by the Examiner.

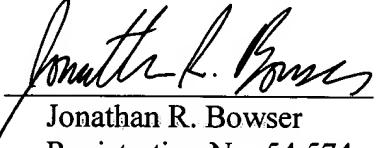
In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is clearly in condition for allowance. An early notice thereof is respectfully solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

Yoshihiko MATSUKAWA et al.

By:


Jonathan R. Bowser
Registration No. 54,574
Attorney for Applicants

JRB/ck
Washington, D.C. 20006-1021
Telephone (202) 721-8200
Facsimile (202) 721-8250
April 13, 2005